REMARKS

The abstract and specification have been amended in order to correct grammatical and idiomatic errors contained therein. No new matter has been added.

Claims 1-18 have been rejected under 35 USC 112, first paragraph, as being based on a disclosure which is not enabling. Specifically speaking, the Examiner states that the claims do not recite the use of an oxygen source which is critical or essential to the practice of the invention. Applicants wish to direct the Examiner's attention to paragraph [0040] on pages 12-13 of the present specification. There it is stated that although oxidizing gases can be used as a carrier gas, when the atmosphere is required to be a reducing atmosphere, reducing gases can also be used. Whether an oxygen source or oxidizing gas is needed together with the inlet powder is determined by the type of starting powder in the intended oxide product. In a situation where the material powder contains oxygen, an oxidizing gas or source may or may not be needed. In general, oxygen-free material compounds need an oxidizing gas and although most of the Examples in this application use an oxidizing gas as a carrier gas, Example 11 uses a reducing gas, nitrogen containing 1% hydrogen. As such, it is respectfully submitted that the rejection of the claims under 35 USC 112, first paragraph, as not being enabled by the specification is in error.

Claims 1-4 have been rejected under 35 USC 103(a) as being unpatentable over Yoshimura et al. Applicants respectfully traverse this ground of rejection and urge reconsideration in light of the following comments.

The presently claimed invention is directed to a method for manufacturing a highly-crystallized oxide powder comprising the steps of ejecting a starting material powder comprising at least one element selected from the group consisting of metal elements and semimetal elements that will become a constituent component of the oxide into a reaction

vessel together with a carrier gas through a nozzle and heating the starting material powder at a temperature higher than the decomposition temperature or reaction temperature thereof and not lower than (Tm/2)°C, where Tm°C stands for the melting point of the oxide which is to be produced, and a state in which the starting material powder is dispersed in a gas phase at a concentration of not higher than 10 g/L. In another embodiment of the present invention, a double oxide powder is produced by a process in which the starting material powder is heated at a temperature higher than the decomposition temperature or reaction temperature thereof and not lower than (Tm/2)°C of the double oxide which is to be produced.

As discussed in the present specification, the instant invention allows for the production of a highly-crystallized oxide powder with any desired mean particle diameter and a narrow particle size distribution. Moreover, since powders are used as a starting material as opposed to vapors, the problems associated with the vapor phase method such as agglomeration in the obtained powder and the difficulty of controlling the particle diameter, are avoided, the presently claimed process is also more economical. It is respectfully submitted that the prior art reference cited by the Examiner does not disclose the presently claimed invention.

The Yoshimaru et al reference discloses a method for preparing electrically-conducted needle-like zinc oxide which comprises the steps of preparing a vapor mixture by admixing zinc vapor and the vapor of at least one compound selected from the group consisting of dopant-forming compounds having boiling points of not more than the boiling point of zinc and free from oxygen atoms in an amount of 0.005 to 5 parts by weight and passing the vapor mixture to an oxidizing chamber while blowing an oxidizing gas into the vapor mixture through at least two nozzles spaced apart from one another and arranged along the flow path of the vapor mixture to stepwise oxidize the vapor mixture.

In the present invention, the starting material is provided as a powder and is injected along with a carrier gas at a specific concentration not higher than 10 g/L into a reaction vessel. The Yoshimaru et al reference supplies zinc and a dopant-forming compound in the form of a vapor into an oxidation chamber and then oxidizes the vapor by blowing an oxidizing gas into a mixture of the vapors in plural steps. There is no disclosure in Yoshimura et al regarding the use of a metal material powder as a starting material. Moreover, the limitations contained in the present claims were arrived at for obtaining the manufacture of highly-crystallized oxide powder using powder as a starting material. A concentration not higher than 10 g/L was arrived at for the starting material powder in the gas phase. As discussed in paragraph [0042] of the present specification, this limitation was arrived at taking into consideration the collisions or sintering of the particles constituting the starting material powder. Additionally, the heating temperature defined by the decomposition temperature or reaction temperature of the starting material powder and the melting point of the intended oxide is also not taught or suggested by the Yoshimura et al vapor-phase method. The criticality of this heating temperature limitation is discussed in paragraph [0047] of the present specification.

Although the reference cited by the Examiner does not present a showing of prima facie obviousness, numerous Examples and Comparative Examples are presented in the present specification which show the criticality of the claim limitations and are sufficient to rebut any proper showing of prima facie obviousness under 35 USC 103. Therefore, Applicants respectfully submit that the presently claimed invention clearly is patentable over the prior art cited by the Examiner.

The Examiner is respectfully requested to reconsider the present application and to pass it to issue.

Respectfully submitted,

Terryence F. Chapman

TFC/smd

FLYNN, THIEL, BOUTELL & TANIS, P.C.
2026 Rambling Road
Kalamazoo, MI 49008-1631
Phone: (269) 381-1156
Fax: (269) 381-5465

Dale H. Thiel	Reg. No. 24 323
David G. Boutell	Reg. No. 25 072
Ronald J. Tanis	Reg. No. 22 724
Terryence F. Chapman	Reg. No. 32 549
Mark L. Maki	Reg. No. 36 589
Liane L. Churney	Reg. No. 40 694
Brian R. Tumm	Reg. No. 36 328
Steven R. Thiel	Reg. No. 53 685
Donald J. Wallace	Reg. No. 43 977
Sidney B. Williams, Jr.	Reg. No. 24 949

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